ABSTRACT

A new two-cycle internal combustion piston engine in which combustion originates within the cylinder head between a positive displacement gear type air compressor and an intake valve sealing the cylinder from the compressor outlet. At approximately TDC fuel is injected into the cylinder head combustion passages initiating combustion and the camshaft opens the intake valve. The opening intake valve allows the burning fuel mixture to flow into the cylinder forcing the piston towards BDC. The compressor is crankshaft driven and continues to force air into the cylinder head combustion passages while the engine runs which causes the fuel to burn more rapidly increasing engine torque. Exhaust valves located in the cylinder head are opened at BDC by the cam as the intake valve closes. The piston forces all the exhaust gases held within the cylinder out the open exhaust ports as it returns to TDC providing this two-cycle engine an exhaust cycle essentially the same as found in a conventional four-cycle internal combustion piston engine.